

## **AMENDMENTS TO THE CLAIMS**

1. (Currently Amended) A transmission apparatus in a CDMA (Code Division Multiple Access) mobile communication system for transmitting a modulated radio signal using a plurality of antennas, the transmission apparatus comprising:

a power amplifier for amplifying the radio signal in a transmission period;

a controller for generating a switching control signal ~~in a non-transmission period~~; and

a switch for switching the amplified radio signal from the power amplifier between a first and a second antenna in response to the switching control signal, the switching control signal generated such that the switching occurs only in a non-transmission period of a last time slot within a sub-frame, the sub-frame includes a plurality of time slots, each time slot includes a transmission period followed by a non-transmission period.

~~wherein the transmission period and the non-transmission period comprise a sub-frame,~~

~~wherein the non-transmission period is a guard period in each sub-frame for separating the sub-frames,~~

~~wherein the guard period is located at the end of each sub-frame, and~~

~~wherein said switching is performed during said guard period.~~

2. (Cancelled)

3. (Currently Amended) The transmission apparatus as claimed in claim [[2]]1, wherein the guard period-non-transmission period of the last time slot has a length of 96 chips.

4. (Currently Amended) The transmission apparatus as claimed in claim [[2]]1, wherein the controller disables the power amplifier at a start point of the guard period-non-transmission period of the last time slot and then outputs the switching control signal when an output level of the power amplifier is lowered to a predetermined level.

5. (Currently Amended) A transmission method in a CDMA (Code Division Multiple Access) mobile communication system for transmitting a modulated radio signal using a plurality of antennas, the transmission method comprising the steps of:

amplifying the radio signal in a transmission period;

generating a switching control signal ~~in a non-transmission period~~; and

switching the amplified radio signal between a first and a second antenna in response to the switching control signal, the switching control signal generated such that the switching occurs only in a non-transmission period of a last time slot within a sub-frame, the sub-frame includes a plurality of time slots, each time slot includes a transmission period followed by a non-transmission period.

~~wherein the transmission period and the non-transmission period comprise a sub-frame,~~

~~wherein the non-transmission period is a guard period in each sub-frame for separating the sub-frames,~~

~~wherein the guard period is located at the end of each sub-frame, and~~

~~wherein said switching is performed during said guard period.~~

6. (Cancelled)

7. (Currently Amended) The transmission method as claimed in claim [[6]]~~5~~, wherein the guard-period non-transmission period of the last time slot has a length of 96 chips.

8. (Currently Amended) A transmission apparatus in a CDMA (Code Division Multiple Access) mobile communication system for transmitting a modulated radio signal using a plurality of antennas, the transmission apparatus comprising:

a power amplifier for amplifying the radio signal in a transmission period;

a controller for generating a switching control signal ~~in a non-transmission period~~; and

a switch for switching the amplified radio signal from ~~by~~ the power amplifier between a first and a second antenna in response to the switching control signal, the switching control signal generated such that the switching occurs only in a guard period of a last time slot within a

sub-frame, the sub-frame includes a plurality of time slots, each time slot includes a transmission period followed by a guard period.

~~wherein the transmission period and the non transmission period comprise a sub-frame,  
wherein the non transmission period is a guard period in each sub frame for separating  
the sub frames,  
wherein the guard period is located at the end of each sub frame, and  
wherein said switching is performed during said guard period.~~

9-10. (Cancelled)

11. (Previously Presented) The transmission apparatus as claimed in claim 8, wherein the guard period has a length of 96 chips.

12. (Previously Presented) The transmission apparatus as claimed in claim 8, wherein the guard period is a downlink non-transmission period of the sub-frame.

13. (Cancelled)

14. (Previously Presented) The transmission apparatus as claimed in claim 12, wherein the downlink non-transmission period is 875 $\mu$ sec.

15. (Previously Presented) The transmission apparatus as claimed in claim 8, wherein the guard period is an uplink non-transmission period of the sub-frame.

16. (Cancelled)

17. (Previously Presented) The transmission apparatus as claimed in claim 15, wherein the uplink non-transmission period is 825 $\mu$ sec.

18. (Currently Amended) A transmission method in a CDMA (Code Division Multiple Access) mobile communication system for transmitting a modulated radio signal using a plurality of antennas, the transmission method comprising the steps of:

amplifying the radio signal in a transmission period;

generating a switching control signal ~~in a non transmission period~~; and

switching the amplified radio signal between a first and a second antenna in response to the switching control signal, the switching control signal generated such that the switching occurs only in a guard period of a last time slot within a sub-frame, the sub-frame includes a plurality of time slots, each time slot includes a transmission period followed by a guard period.

~~wherein the transmission period and the non transmission period comprise a sub-frame,~~

~~wherein the non transmission period is a guard period in each sub frame for separating the sub frames,~~

~~wherein the guard period is located at the end of each sub frame, and~~

~~wherein said switching is performed during said guard period.~~

19-20. (Cancelled)

21. (Previously Presented) The transmission method as claimed in claim 18, wherein the guard period has a length of 16 chips.

22. (Previously Presented) The transmission method as claimed in claim 18, wherein the guard period is a downlink non-transmission period of the sub-frame.

23. (Cancelled)

24. (Previously Presented) The transmission method as claimed in claim 22, wherein the downlink non-transmission period is 875 $\mu$ sec.

25. (Previously Presented) The transmission method as claimed in claim 18, wherein the guard period is an uplink non-transmission period of the sub-frame.

26. (Cancelled)

27. (Previously Presented) The transmission method as claimed in claim 25, wherein the uplink non-transmission period is 825 $\mu$ sec.

28-37. (Cancelled)

38. (Currently Amended) A transmission apparatus in a CDMA (Code Division Multiple Access) mobile communication system for transmitting a modulated radio signal using a plurality of antennas, the transmission apparatus comprising:

- an encoder for encoding data;
- an interleaver for interleaving the encoded data;
- . a demultiplexer for demultiplexing the interleaved data into I channel data and Q channel data;
- an I channel spreader for spreading the I channel data;
- an I channel scrambler for scrambling the spread I channel data;
- a Q channel spreader for spreading the Q channel data;
- a Q channel scrambler for scrambling the spread Q channel data;
- a time division multiplexer for time multiplexing the spread I channel data with an I channel midamble sequence, and multiplexing the spread Q channel data with a Q channel midamble sequence;
- an I channel finite impulse response filter for pulse shaping the multiplexed I channel data;
- a Q channel finite impulse response filter for pulse shaping the multiplexed Q channel data;
- an I channel multiplier for modulating the pulse shaped I channel data;

a Q channel multiplier for modulating the pulse shaped Q channel data;  
an adder for adding the modulated I channel data and the modulated Q channel data;  
a power amplifier for amplifying the added I and Q channel data;  
a controller for generating a switching control signal; and  
a switch for switching during a non-transmission period the amplified I and Q channel data between a first and a second antenna in response to the switching control signal, the switching control signal generated such that the switching occurs only in a non-transmission period of a last time slot within a sub-frame, the sub-frame includes a plurality of time slots, each time slot includes a transmission period followed by a non-transmission period.